

REMARKS

Applicant acknowledges the allowance of claims 3, 5, and 6. New claim 9 is dependent on allowed claim 5 and should therefore also be allowable.

New claims 7 and 8 are dependent on claim 1 and do not add any new matter and do place the application in better condition for appeal. Therefore it is requested that the claims be entered for purposes of placing the application in condition for allowance or for purposes of appeal. Claims 1, 2, and 4 were rejected under 35 U.S.C. 103(a) over Ikeda et al. The Examiner correctly states that Ikeda does not necessarily disclose a spline having a major axis with a length greater than the minor axis (claims 1, 2, 4, 6 and 7).

The Examiner has stated that the oval construction of our spline falls within the teachings of Ikeda. since Ikeda states on page 5 lines 8-14 that

“Up to...equivalent results are obtained even if the cross section is square or polygonal for the **spacer shape**. It...all types of variations of the design are included within the scope of the present invention.”

However, Ikeda clearly only teaches that the shape of his spline can only have two axes which are of equal length whether or not the shape is round, square or polygonal. **Ikeda does not suggest a non-equivalent shape** that acts differently than their shape. The attached 132 Declaration clearly sets forth that **our spline does not act equivalently to the spline of Ikeda.**

Ikeda does not suggest that by using an oval spine having open pockets on a major axis and a minor axis and wherein the major axis is longer than the minor axis that the cable would have

- (1) **Reduced alien cross talk** at higher frequencies that 350+ MHz cable are designed for.
- (2) Our spline **optimally orientates the long and short lay length pairs for minimum conductor length differences**. Long lay pairs are on the "major" axis and short lay pairs are on the "minor" axis. The major and minor cable axis increase the amount of long lay pair lay

UTP's in the cable", and the minor axis decreases the amount of short pair lay UTP's in the cable. This equalized pair length geometry equalizes attenuation differences between the longest and shortest pair lay lengths in the cable.

- (3) **NEXT is improved with the longest pair lays being separated along the major spline's axis.** In UTP cables, the longer the lay, the more difficult it is to reduce cross talk. A typical spline tends to compromise between making sure the long lay pairs are separated enough, and this also over separates the short lay UTP's. **The short lay DTP's are ideally located along the minor cable axis since physical separation isn't as much need as in the long",lay pairs.**
- (4) Attenuation in a UTP cable is increased when the pairs contact the outer jacket material. Dissipation factor ratings and dielectric absorption, characteristics of the jacket material are responsible for this increase in attenuation. The short lay UTP's are affected by excessive jacket material contact due to their still longer conductor length. By placing the short lay pairs along the short minor axis of the cables, **less jacket material is in contact with the short lay pairs. The longer lay pairs, which have the benefit of shorter conductor lengths, are placed along the major axis where a greater degree of cable jacket contact takes place. The pair orientation around our spline reduces the attenuation effects on the most appropriate pair lays.**
- (5) Our spline enables a more equalized conductor length with a given lay set, which more equally distributes pulling and installation loads.
- (6) With our spline longer pair lays can be used than would be thought possible for a given level of NEXT reducing the need for "larger" conductor diameters to lower attenuation. This makes the pairs easier to handle and terminate.
- (7) An oval jacket shape, which would be obtained when using our spline, places bend loads primarily across the minor short to short lay pair axis which puts the bending stresses across the pair lays which are better able to endure bending loads due to the shorter lay, or helix.

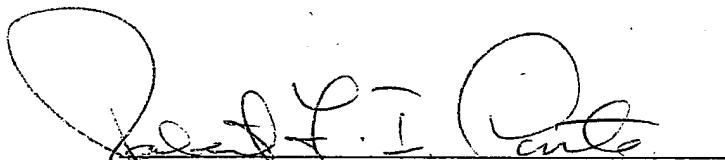
Ikeda does not suggest or even hint that such advantages could be had by using our spline which has a major axis which is longer than its minor axis. The prior art must suggest the changes **and reasons** for the changes. The suggestions can not come from applicant's application.

As set forth in *In re Kotzab*, 55 USPQ2d 1313, the CAFC stated substantial evidence is needed to support an obvious analysis. "Most, if not all inventions arise from a combination of old elements...Thus, every element of a claimed invention may often be found in the prior art." to establish obviousness...there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant."

Further, Ikeda does not suggest what substitutions should be made to arrive at applicant's invention. The suggestions are made by the Examiner, after reading applicant's invention, and not Ikeda. As noted above this can not be the basis for refusing a patent - as set forth by the CAFC in *In re Kotzab*, 55 USPQ2d 1313.

Ikeda discloses that all pockets are the same size and that his spline has two axes with the same length. There is no teaching or suggestion by Ikeda that this relationship should be changed even if the shape of the spline and/or pockets are changed. That is, all the pockets and axes should remain equal to each other so that the spline is equivalent to the cylindrical spline shown by Ikeda. Applicant has clearly shown that his spline is **not equivalent to a cylindrical spline** **wherein** the axes are equal. Therefore it is respectfully requested that the rejection of claims 1, 2 and 4 and their dependent claims be withdrawn and a notice of allowance issued or that this amendment be entered for purposes of appeal.

Respectfully submitted,



Robert F. I. Conte
Barnes & Thornburg
Suite 4500
One North Wacker Drive
Chicago, IL 60606
Phone: 312-214-4804
Facsimile: 312-759-5646

Attorney for Applicant
Registration No.: 20,354

BARNES & THORNBURG

Suite 4400
One North Wacker Drive
Chicago, IL 60606
(312) 357-1313 (Telephone)
(312) 759-5646 (Facsimile)

PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Customer No.: 23644

} Certificate Under 37 CFR 1.8(a)

Application No.: 09/929,613

} I hereby certify that this correspondence is being
deposited with the United States Postal Service as
first class mail in an envelope addressed to:
Assistant Commissioner for Patents, Washington,
D.C. 20231
on Friday, May 14, 2004

Confirmation No.: 9701

Filing Date: 08/13/2001

Group Art Unit: 2831

Examiner Name: William H. Mayo, III

Attorney 926500-920966
Docket No.: (Old File No.: 6500-1801.2)

First Named Inventor:
Galen M. Gareis

Title: Cable Separator Spline

} (Signature)

} Donna B. Vandenberg
(Printed Name)

37 C.F.R. 1.132 DECLARATION

DECLARATION

I, Galen M. Gareis of 420 South 19th street, Richmond, Indiana, to my best knowledge declare the following:

1. I am the sole inventor of an invention which has been filed with the U.S. Patent and Trademark Office as a patent application Ser. No. 09/929,613 filed on August 13, 2001 as a continuation of Application Ser. No. 09/452,702 now U.S. Patent 6,297,454.

2. I am fully experienced in the design and manufacturing of data cables and the twisted pair cable separator splines used in data cables.

3. I am the inventor named in the following U.S. Patents in the field of data cables:

6,686,537	6,222,130	5,486,649	5,000,539
6,297,454	5,557,698	5,355,427	

4. I have read and understand the translation of the Ikeda et al Japanese Patent 4-332406, hereinafter referred to as Ikeda. Further, I am familiar with the Ikeda twisted pair cable separator spline. If I tried to use the Ikeda cylindrical twisted pair cable separator splines in a high performance data cable using the same twisted pair cables in each of the Ikeda pockets that I use in my twisted pair cable separator spline where there is a major axis having a length greater than the minor axis, the Ikeda cable would have

(a) more alien cross talk at high frequencies; and

(b) more SKEW when long lay pairs are used in two opposite pockets and short lay pairs are used in the other two opposite pockets of the Ikeda spline when compared to the long lay cables being in the opposite pockets separated by the major axis of my spline and the short lay twisted pair cables being in the pockets separated by my spline's minor axis.

5. It would not be obvious to me, a person skilled in the twisted pair cable separator spline and data cable art, nor do I believe to anyone having ordinary skill in the twisted pair cable separator spline and data cable art from reading and understanding Ikeda, to manufacture a twisted pair cable separator spline wherein the cross-section of the spline has at least one pocket on the major axis and at least one pocket on the minor axis with the major axis having a length greater than the minor axis. I am the only one who discloses such a structure and the only one who states that such

a structure has advantages over the Ikeda structure wherein both axes of the twisted pair cable separator spline are equal. Ikeda only teaches having equal axes and does not teach or suggest why a person of ordinary skill in the art of twisted pair cable splines would use a spline having a major and a minor axis wherein the major axis has a length greater than the length of the minor axis.

6. I have read, understand and am familiar with the Ikeda patent. The size of the four pockets of the Ikeda spline and their placement are all identical in that all four Ikeda pockets are on identical length axes.

7. It would not be obvious to me, a person skilled in the art nor do I believe to anyone having ordinary skill in the twisted pair separator spline art from reading and understanding Ikeda to manufacture a twisted pair cable separator spline wherein the cross-section of the spline has two pockets on the major axis and two pockets on the minor axis with the major axis having a length greater than the minor axis. I am the only one who discloses such a structure and the only one who states that such a structure has advantages over the structure wherein both axes of the spline are equal. Ikeda only teaches having equal axes and does not teach or suggest why a person of ordinary skill in the art of twisted pair cable separator splines would use a spline having a major and a minor axis wherein the major axis has a length greater than the length of the minor axis.

8. I declare that all the statements made herein of my own knowledge are true and that all the statements made on information and belief are believed to be true; and further that the statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of application 09/929,613 or any patent issued thereon.

Date: May 10, 2004, 2004

Galen M. Gareis
Galen M. Gareis